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Technical Assistance for Public Drinking Water Systems

The Idaho Drinking Water Newsletter

Department of Environmental Quality Idaho Drinking Water Program

www.deq.idaho.gov/water/prog_issues.cfm

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Implementation for public drinking water systems begins December 1, 2009

Thinking ahead to the Ground Water Rule

This article offers a brief overview of the Ground Water Rule (GWR), which was promulgated by EPA in December 2006.

DEQ is currently in the process of incorporating this national primary drinking water regulation into the Idaho Rules for Public Drinking Water Systems. The proposed rule will be presented to the DEQ Board and the Idaho State Legislature for approval.

The latter part of this article points out a few actions you may want to start thinking about if the GWR applies to your public drinking water system.

Under EPA guidelines, the GWR takes effect on December 1, 2009, and applies to all public drinking water systems (hereafter referred to as "systems") that have any of the following characteristics:

- ❑ **Systems that rely entirely on one or more ground water sources,**
- ❑ **Systems that are regulated consecutive systems receiving ground water, or**
- ❑ **Systems that mix surface and ground water,** where ground water is added directly to the distribution system and delivered to consumers without treatment equivalent to the treatment provided for surface water.

The Ground Water Rule consists of four main elements:

1. **Sanitary Surveys.** DEQ must conduct sanitary surveys of all ground water systems. This is not a change from current practice in Idaho, but some community drinking water systems may change to surveys every three years from the present five year interval.
2. **Source Water Monitoring.** Systems that do not provide 4-log treatment *(see insert at right)* of viruses for each of their ground water sources must conduct source water monitoring for *E. coli.* Monitoring is triggered when a routine Total Coliform Rule (TCR) sample is found to be positive for total coliform (TC+).
3. **Compliance Monitoring.** Systems may avoid source water monitoring by demonstrating a 4-log virus treatment at each of their ground water sources and by conducting regular compliance monitoring.
4. **Corrective Actions.** Systems that have significant deficiencies on a sanitary survey or detect fecal contamination *(E. coli)* in any of their sources must perform one or more of the following corrective actions:
   - Correct all significant deficiencies.
   - Provide an alternative source of water.
   - Eliminate the source of contamination.
   - Provide treatment that reliably achieves 4-log virus inactivation/removal.

Although implementation is still over a year away, it might be a good idea to start thinking about the following points:

- ❑ **Notify DEQ by December 1, 2009.** In order to avoid the source water monitoring requirement, it will be necessary to demonstrate that your system provides sufficient disinfection of each ground water source to ensure 4-log treatment of viruses. **If you intend to make this demonstration, you will need to notify DEQ by December 1, 2009 and begin compliance monitoring.**

Engineering calculations must be submitted, at the time of notification, so that the agency can evaluate the level of treatment.

These calculations would need to demonstrate that the ground water is in contact with a sufficient concentration of disinfectant for a long enough period of time to inactivate 4-logs of virus prior to the first customer served.

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What is "4-log treatment?"

The term "4-log treatment" is a form of shorthand used in the drinking water industry based on a logarithmic scale (abbreviated as "log"). A 4-log treatment corresponds to a level of treatment capable of reliably inactivating (or removing) 99.99% of the target organisms. The Ground Water Rule targets viruses. The various Surface Water Treatment Rules target *Giardia* (3-log treatment – 99.9%) and *Cryptosporidium* (2-log treatment – 99%).

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❑ **Compliance monitoring** is required of systems that practice 4-log virus treatment at each of their sources. In systems serving 3,300 *or fewer* customers, this will consist of a daily chlorine residual measurement at or prior to the first customer.

The minimum residual that must be maintained at this monitoring location will be determined from the engineering calculations discussed previously. The number of monitoring locations will depend on the number of sources and whether or not flows are combined before reaching a service connection.

If your system provides disinfection of all ground water sources, you may want to start thinking about how and where these daily residual measurements will be taken.

Systems serving *more than* 3,300 persons will be required to measure chlorine residual continuously and record the lowest daily reading. This may entail the purchase and installation of equipment if your system is not currently using continuous chlorine monitors.

❑ **Source Water Monitoring**. Systems that are not providing 4-log treatment of viruses at all of their sources nor conducting compliance monitoring are subject to triggered source water monitoring requirements.

Each time a routine Total Coliform Rule (TCR) sample is positive for total coliform (TC+), a sample to be analyzed for *E. coli* must be taken within 24 hours. The sample must be collected at the source or sources that were contributing water at the time and in the area where the TC+ was taken.

Source samples must be taken prior to any treatment. It would be a good idea to identify a sampling point for each ground water source. Smooth-nosed sampling taps (no threads on spigot) may need to be installed if not already present.

Systems that add chlorine in the well bore, or near enough to the wellhead that chlorine could backflow into the well, will need to develop a procedure for purging all chlorine residual prior to taking a triggered source water sample.

In conclusion. The task of complying with the GWR will vary from one system to another, depending on such factors as the configuration of the system, compliance with construction standards, current state of repair, and the microbiological quality of the ground water supply.

Future newsletter articles will provide additional detail on each of the four major requirements of the GWR. If you want to get a head start, EPA's GWR web site is a valuable source of information, including a Quick Reference Guide, fact sheets, and other guidance materials: http://www.epa.gov/safewater/disinfection/gwr/index.html. ■

EPA Safe Drinking Water Hotline

1-800-426-4791

Mon - Fri, 10am - 4pm EST (excluding Federal holidays)

Regional DEQ offices to issue Notices of Violation

New procedures will reduce the time to return systems to compliance

DEQ will soon implement a change in its drinking water enforcement procedures to respond more quickly to certain types of violations.

The six DEQ regional offices will begin issuing regional Notices of Violation (NOVs) sometime in early 2009. A regional NOV is a Notice of Violation issued from a DEQ regional office rather than from the State Office in Boise.

The overall intent of the regional NOV is to provide continued protection of public health by reducing the amount of time (and paperwork) it takes to bring a public drinking water system back into compliance.

The regional NOV is also intended to provide consistency to the regulated community by addressing certain minor violations in the same manner throughout the state.

Regional NOVs will be issued for specific types of violations, including:

- Failure to monitor,
- Failure to issue public notification, and
- Failure to submit Consumer Confidence Reports (CCRs) as required for community drinking water systems.

Owners of all public drinking water systems will be notified by mail of the enforcement changes 30 days before regional NOVs become effective statewide.

The Idaho Falls DEQ regional office began piloting regional NOVs in August 2006. The regional office found the regional NOV to be less complicated and enabled staff to resolve minor enforcement issues more quickly. ■

DEQ awards funding for Source Water Protection efforts

2009 grant guidelines available in January

The Department of Environmental Quality (DEQ) awarded nearly $120,000 in grant funding for source water protection efforts in August 2008 through the new Source Water Protection Grant Program.

Funding for the competitive grant program was made available through the State Revolving Fund Capitalization Grant.

Eligible applicants included Idaho public drinking water systems, local governments (cities or counties), special districts (e.g., soil conservation districts), associations, nonprofit organizations, and educational institutions. DEQ received 40 grant applications and was able to fund 13 projects statewide.

Grants were awarded to implement projects to protect existing sources of public drinking water. Examples of projects funded this year include security fencing around drinking water sources, decommissioning wells that pose a risk of contamination, specialized monitoring for emerging contaminants, and various educational projects including drinking water protection signage and a school water festival.

The grant guidelines for the 2009 Source Water Protection Grant will be announced in January 2009. For more information on the Source Water Protection Grant Program, visit DEQ's website at http://www.deq.idaho.gov/Applications/gwgamg/ or contact Amy Williams at (208) 373-0115. ■

EPA's free PN*i* Writer helps system owners create public notices

EPA's new public notification tool, the PN*i*Writer, provides public drinking water system owners and operators a fast, user-friendly format for creating public notices that meet all federal requirements.

Public notification is intended to ensure that consumers are immediately notified if there is a serious problem with their drinking water, which may pose a risk to public health.

When users log on to the web-based program, they will see a series of questions about the system's violation or situation requiring a public notice.

After answering questions and filling in blanks they will be able to print or download the public notice, an instruction sheet on what to do next, and a completed public notice certification form to forward to DEQ. Standard public notice phrases are also available in nine different languages.

PN*i*Writer is a free program that requires Internet access to use and is available at http://www.pniwriter.org/. Users may also log on through DEQ's web site at http://www.deq.idaho.gov/water/assist_business/pws/notification.cfm#pni.

In order to generate a notification, the user will need the following basic information about the violation or situation:

- the contaminant(s) of concern,
- the contaminant level(s) found,
- the date you became aware of the violation or the situation occurred,
- any corrective actions planned or already performed, and
- the date you expect to return to compliance or resolve the situation.

You will have to sign-up to use this site. This will allow your information to be saved between visits. No private information is required, but an email address is requested in case you forget your password.

PN*i*Writer will add all new Federal requirements needed to create a public notice so you will not need to worry about new changes. DEQ recommends that users test the PN*i*Writer before they need an actual public notice. For testing purposes use a hypothetical contamination situation. ■

Local Energy Efficient Opportunities

With increasing energy costs, drinking water and wastewater systems are seeking ways to reduce their energy expenses. One option is replacement of inefficient pumps with energy efficient pumps. Contact your local utility to learn more about their energy efficient programs. ■

Training Schedule

Class/Sponsor	Location/Date
Wastewater III-IV Licensure Review (BE) – WW	Nampa, 9/10/08
Membrane Technologies (BE) – WW (FULL)	Star, 9/16/08
VSWS Licensure Review (BE) – W (FULL)	Nampa, 9/18/08
Lagoon Operations –WW (BE) - WW	Lava Hot Springs, 10/1-2/08
Land Application Licensure Review (BE) – WW	Pocatello, 10/7-8/08
NPDES Permits (BE) – WW	Paul, 10/9/08
Collections I-II Licensure Review (BE) – WW	Idaho Falls, 10/15-16/08
Wastewater I-II Licensure Review (BE) – WW	Twin Falls, 10/22-23/08
Chemical Feed Basics/ Chlorinate/Dechlorinate (IRWA) – W/WW	Idaho Falls, 10/24/08
Troubleshooting Wastewater Lagoon Systems (IRWA) – WW	Idaho Falls, 10/27/08
Troubleshooting Wastewater Lagoon Systems (IRWA) – WW	Pocatello, 10/28/08
Water I-II Licensure Review (BE) – W	Sandpoint, 10/28-29/08
Troubleshooting Wastewater Lagoon Systems (IRWA) – WW	Jerome, 10/29/08
Troubleshooting Wastewater Lagoon Systems (IRWA) – WW	Fruitland, 10/30/08
Sampling Plan Development (BE) - W	Coeur d'Alene, 10/30/08
Intro to Pretreatment (BE) - WW	Sandpoint, 11/18/08
Membrane Technologies (BE) – W/WW	Post Falls, 11/19/08
NPDES Permits (BE) – WW	Meridian, 12/2/08

(BE) = Brown Environmental, Inc.
(IRWA) = Idaho Rural Water Association

For further information:

Brown Environmental, Inc. 1-800-543-4358
or for the Boise area, 208-465-5725.
Web site: http://www.idahooperatortraining.com/
Register for classes at
http://www.idahooperatortraining.com/workshopapp.htm

Idaho Rural Water Association 1-800-962-3257
or 1-208-343-7001 or 208-582-0592
E-mail: shammons@idahoruralwater.com.
Web site: http://www.idahoruralwater.com/

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